

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANT:	HENNING HENNINGSEN)	
SERIAL NO.:	09/402,751)	Group Art No.: 2674
FILED:	October 12, 1999)	Examiner: Regina Liang
TITLE:	AN APPARATUS AND A METHOD FOR ILLUMINATING A LIGHT-SENSITIVE MEDIUM)	Conf. No.: 6390
ATTY. DOC. NO:	GRP-0108)	

REPLY BRIEF UNDER 37 C.F.R. §41.41

Dear Sir:

In response to the Examiner's Answer dated 12 October 2007, Appellant submits the present Reply Brief. Entry and consideration hereof are respectfully requested.

Reply to Item "(9) Grounds of Rejection", Pages 3-9, Examiner's Answer"

Claims 1, 3, 4, 8, 14, 15, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamori et al (US. PAT. NO. 5,765,934 herein after Okamori) in view of Sonehara et al (US. PAT. NO. 5,053,765 hereinafter Sonehara.

Here, the Examiner asserts that Okamori teaches all of the elements of claim 1 except for "a light valve arrangement comprising a plurality of electrically controlled light

valves". For this element, the Examiner relies upon Sonehara which teaches an LCD configuration in Figures 7 and 8. The Examiner then concludes that "it would have been obvious...to modify the light valve arrangement of Okamori to have a plurality of electrically controlled light valves [i.e., the LCD] as taught by Sonehara so as to provide an improved light guide type display device which provides uniform and high quality display."

Preliminarily, Appellant notes the Examiner's statement at the bottom of page 3 of the Answer, "Okamori also teaches using a liquid crystal panel as a light valve arrangement (col. 1, lines 55-62). This is not correct. The cited section of Okamori refers to the prior art reference JP-4-204883 which uses an LCD 6 as shown in Figure 11. Okamori explains that this prior art arrangement provides a deficient light intensity and is overcome by the disclosed invention. The LCD 6 mentioned in Okamori at column 1, lines 55-62 is wholly distinct from the invention of Okamori.

It is firmly established that if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123, USPQ 349 (CCPA 1959). Furthermore, it is accepted that if a proposed modification would render the prior art unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the present rejection, the Examiner relies upon the "Second Embodiment" of Okamori disclosed at column 8, line 30 through column 9, line 30 with reference to Figure 2. This second embodiment consists of a light-branching guide 216 which is branched into four light output sections 216b, 216c, 216d, and 216e. At the terminus of each output section 216b, 216c, 216d, and 216e, there is a respective single light valve 61, 62, 63, and 64.

Okamori summarizes this configuration by stating that "the light guide is a single-

input-multiple-output light guide having one light input section and *n* light output sections, *n* being equal to the number of light valves. Figure 2 illustrates a light source according to the second embodiment for illuminating *four* light valves.” Col. 8, lines 35-40 (emphasis added). That is, each single light guide branch 216b, 216c, 216d, and 216e has a specific and exact relationship with a single respective light valve 61, 62, 63, and 64. In other words, Okamori discloses that a single light guide illuminates a single light valve. Okamori distinguishes this inventive one-to-one configuration from the prior art which directs a luminous flux toward an LCD which, according to Okamori, disadvantageously results in a varying luminous intensity distribution across the LCD. See, Figure 11 and related text.

As noted by the Examiner, Sonehara discloses in Figures 7-8 an LCD light shutter 700, 800 consisting of a plurality of electrodes 706, 806 corresponding to a plurality of picture elements. The Examiner contends that this plurality of electrodes/picture elements corresponds to the “plurality of electrically controlled light valves” of Appellant’s claim 1. Thus, as mentioned above, the Examiner alleges that it would have been obvious to one of skill in the art at the time of Appellant’s invention to remove the single light valves 61, 62, 63, and 64 of Okamori and replace them with the LCD electrodes of Sonehara to form Appellant’s invention of claim 1.

However, to replace each single light valve 61, 62, 63, and 64 of Okamori with an LCD panel of Sonehara (each panel including the plurality of picture elements/electrodes) would entirely change the principle of operation of Okamori and thus render the reference unsatisfactory for its intended purpose. Rather than maintaining the disclosed relationship of one light output section 216b with one light valve 61, this modification would associate one output section 216b with a plurality of the Sonehara electrodes 706. Essentially, this proposed modification would remove the specified single light valve 61 of Okamori and insert the LCD arrangement *of the prior art* JP 4-204883, over which Okamori distinguishes its invention. This proposed modification would force the Okamori arrangement to violate its stated principle of operation: *n* light output sections where *n* is

equal to the number of light valves. That is, against the disclosure and spirit of Okamori, the Examiner's proposed modification would render the number of light valves far greater than the number of output sections. Clearly, this type of proposed modification destroys the principle of operation of Okamori and thus is not sufficient to render Appellant's claim 1 *prima facie* obvious. *In re Ratti* and *In re Gordon* (see citations above).

A more reasonable combination of Okamori and Sonehara would be to replace each single light valve 61, 62, 63, and 64 of Okamori with a single electrode 706, 806 of Sonehara. This would maintain Okamori's principle of operation where each light output section 216b, 216c, 216d, and 216e is individually matched with a single light valve. In fact, Sonehara supports this type of modification by disclosing a one-to-one relationship between each electrode 706, 806 and its corresponding optical fiber 710, 803. See, Figures 7-8; col. 6, lines 15-33; col. 18-36. However, even this combination of Okamori and Sonehara, if possible at all, would not teach or suggest "a light valve arrangement comprising a plurality of electrically controlled light valves, each of at least two of the light emitters being arranged to illuminate a plurality of light valves", as required by claim 1. Instead, this modification would simply result in a single light output section of Okamori emitting light to a single electrode of Sonehara. Thus, Appellant's claim 1 would not be rendered obvious even by this combination of the references.

Accordingly, for at least these reasons, no combination of Okamori and Sonehara would yield "a light valve arrangement comprising a plurality of electrically controlled light valves, each of at least two of the light emitters being arranged to illuminate a plurality of light valves", as recited in claim 1. Thus, claim 1 and claims 2-19 depending therefrom are non-obvious.

Claim 20 recites a method of point illumination comprising "illuminating a plurality of light valves with each of at least two light emitters". For at least the reasons expressed above, neither Okamori nor Sonehara nor their combination provides at least two light valves which each illuminate a plurality of light valves, as recited in claim 20. Thus,

claim 20 and claims 21-22 depending therefrom are non-obvious.

Reply to Item “(10) Response to Argument”

Here, the Examiner states, “Okamori is not using a single light emitter directing light to a single light valve, instead, Okamori is using a single light emitter (each light guide of 216b-216e, Fig. 2) directing light to a single light valve arrangement.” Examiner’s Answer, page 9. This statement is not accurate with respect to the disclosure of Okamori and is inconsistent with the Examiner’s statements made elsewhere in the Answer.

Firstly, Okamori clearly and unequivocally describes each light output section 216b, 216c, 216d, and 216e as directing light to a respective single light valve 61, 62, 63, and 64. Thus, the Examiner’s statement that “Okamori is not using a single light emitter directing light to a single light valve” is not correct.

Secondly, at page 3 of the Answer, the Examiner states that “each of light valves 61-64 corresponds to a light valve arrangement”. That is, the Examiner defines a “light valve arrangement” as consisting of a single one of the light valves 61, 62, 63, and 64. Thus, it is not proper for the Examiner to draw a distinction at page 9 between “light valve arrangement” and “single light valve” when the two are equated at the outset on page 3 of the Answer.

On page 9, the Examiner further states, “Okamori teaches each light valve is a liquid crystal panel 6 (col. 1, line 58), thus, each light valve (a liquid crystal panel) in Okamori is corresponding to a light valve arrangement as claimed.” As discussed previously, the mention of liquid crystal at column 1, line 58 of Okamori refers NOT to the invention of Okamori but instead to a deficient configuration of the prior art reference JP 4-204883. Okamori concerns overcoming this deficiency by employing multiple single light emitters 216b, 216c, 216d, 216e each disposed in one-to-one relation with a single light valve 61, 62, 63, 64.

Conclusion

For at least the reasons cited above, Appellant respectfully submits that the rejections are improper and requests reversal of the outstanding rejections. If there are any additional charges with respect to this Appeal, or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Appellant's attorneys.

Respectfully submitted,

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